

Appl. No. 10/566,245
Amdt. dated August 29, 2007
Reply to Office action of June 4, 2007

REMARKS

Claims 12-15 And 17-22 are now in this application.

Claim 16 has been canceled, and its limitations incorporated into claim 12. Claim 12 has also been amended at line 5 so as to correct two minor grammatical errors.

In the Office action the examiner rejected claims 12-22 under 35 USC 112 as indefinite, saying that the sliding seat and slide seal are not clearly disclosed in the specification and not clearly understood.

This rejection is not at all understood, since practically every one of paragraphs 24 through 37 of the specification describe one or both sliding seat 24 and slide seal 25, plus their operation. Sliding seat 24 is a part of a valve which is basically the same as countless valves. While it may be somewhat more usual to refer to the stationary member of a valve as the seat and the movable part as the valve member, it is not seen that the language as applied to element 24 fails to disclose its structure and operation, especially since it is shown clearly in each of figures 1-3. It is noted that in paragraph 27 of the specification, at lines 5-6, the sliding seat 24 has been explained as a sealing edge or a sealing face. Further it is pointed out that whatever element 24 is called, it acts as a valve by sliding within chamber 29 and in its downward most position it seats against stationary structure. Clearly paragraph 27 of the specification describes the operation of element 24.

With respect to slide seal 25, the examiner's attention is politely requested to paragraph 26 of the specification which describes the structure of slide seal 25, and then to paragraph 29, lines 5-8, which describe how control edges 33 and 34 act to close slide seal

25.

With regard to the examiner's prior art rejection, while there are some similarities between the control valve of Augustin and the structure of applicant's control valve, it is not seen how the examiner could properly say that it would have been obvious to use such a control valve as taught by Augustin to control a pressure booster such as taught by Magel. As far as can be seen, there is no convincing reason supplied by either the examiner, or by the prior art, as to why it would have been obvious to control the pressure booster of Magel with a valve such as taught by Augustin. The only teaching of a valve similar to applicant's being used to control a pressure booster comes from applicant's disclosure, not from the prior art.

The structure shown by Magel has valve 8 clearly providing control for the pressure within control chamber 27 of the pressure booster. However, if Magel's valve 8 were to be replaced by a different valve, and there is no reason for one skilled in the art to believe such a replacement would be desirable, and even further, if Magel's valve were to be replaced by the structure of Augustin, there is no teaching whatsoever of how the valve structure of Augustin would be connected to replace Magel's control valve 8. The valve structure of Augustin is intended to control the pressure in pressure chamber 17. This pressure chamber 17 is not in any way equivalent to Magel's pressure booster control chamber 27. It is only from applicant's teaching that one would discover that it might be advantageous to control the pressure in a control chamber for a pressure booster via structure such as recited in amended claim 12, including a 3/2 way valve whose valve needle is pressure compensated by having a

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diameter of the valve housing substantially equal to the diameter of the sliding seat of the valve needle.

And further, claim 12 recites that the valve needle of the direct switching, 3/2 way valve is pressure compensated. The examiner seems to have overlooked this recitation in claim 12, as neither Magel nor Augustin have any structure or disclosure for providing pressure compensation. In fact, in Augustin the diameters of control piston 4 and valve body 5 are clearly different. In view of this difference in diameter, it would seem that pressure compensation is not possible for the structure of Augustin.

Thus it would seem that the examiner's rejection of claim 12, particularly as amended, should not stand.

However, in furtherance of the prosecution of this application, the limitations of former claim 16 have been incorporated into claim 12.

The examiner rejected claim 16 as unpatentable over Magel in view of Keeney. This rejection appears invalid because the structure of Keeney is not directed toward controlling a fuel injection, but rather Keeney's structure is a differential valve used in a system for measuring an amount of liquid in a container. Contrary to what the examiner has indicated, there is simply no reason why it would have been obvious to combine the teachings of Magel and Keeney as the examiner has done in his rejection. These references are from entirely different areas of art, and there is no teaching in either reference as to why one skilled in either art would want to replace valves in one reference with valves from the other.

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Keeney uses a differential valve with check valves to connect a container under pressure to a differential gauge, and uses this structure to determine the amount of liquid in a closed loop system. It is not seen that this would in any way relate to controlling the pressure in a control chamber of a pressure booster, especially a pressure booster which is being used as part of a fuel injection system.

And even further, Keeney does not have a sliding seat as part of his valve. In Keeney, sliding valve member 40 includes two slide seals, 47b and 47c, but sliding valve member 40 does not have any seat. Thus even further, the combination of the references Magel in view of Keeney, as applied by the examiner against claim 16, now incorporated into claim 12, clearly does not make a valid rejection, since this combination of references does not include all of the structure recited in claim 16, presently amended claim 12. Magel shows a control valve 8, which alternatively connects line 42 to either of lines 44 or 45, but Magel is completely silent as to exactly what structure actually comprises valve 8. Keeney has two slide seals 47b and 47c, and does not have a seating valve. Thus, neither of these references teaches structure which could be considered to meet the "sliding seat" as recited in amended claim 12.

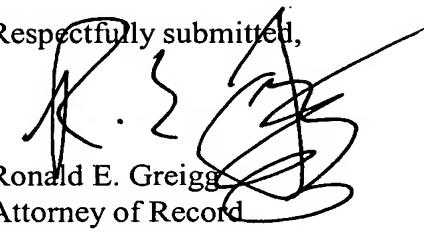
It is also pointed out that even though claim 22 depended on claim 16, the examiner chose to reject claim 22 using the same prior art as claim 12. Now that claim 16 has been incorporated into claim 12, and the dependency of claim 22 has been revised to claim 12, the structure recited by claim 22 has not changed. Thus, if the examiner should decide to reject

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claim 22 based on any combination of art other than Magel in view Augustin, it would be inappropriate to make the next Office action a Final rejection.

For all of the above reasons, singly and in combination with each other, entry of this amendment and allowance of the claims are courteously solicited.

Respectfully submitted,


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